

WE CLAIM AS OUR INVENTION:

1. A housing of a radial flow compressor, comprising:
first and second housing parts;
a channel system comprising at least one channel;
each housing part having at least a portion of at least one channel of the channel system such that with the two housing parts joined together the channel system is formed; and
a compaction material which is free-flowing when injected into the channel system being provided in the channel system so that the channel system together with the compaction material formed therein forms a firm bond of the first and second housing parts to one another.

2. A housing of claim 1 wherein said compaction material comprises an adhesive.

3. A system according to claim 1 wherein said compaction material comprises a thermoplastic polymer.

4. A housing according to claim 1 wherein said at least one portion of at least one channel of the channel system comprises an open channel portion which mates with a corresponding open channel portion of the other housing part to form an enclosed channel portion with the two housing parts connected together.

5. A housing according to claim 1 wherein said at least one channel portion comprises an enclosed channel portion.

6. A housing according to claim 1 wherein at least one channel portion of a channel system meanders between the first and second housing parts.

7. A housing according to claim 1 wherein the channel system is like a labyrinth.

8. The housing according to claim 1 wherein the at least one channel portion comprises a groove.

9. A housing according to claim 1 wherein the at least one channel portion comprises approximately half of an enclosed channel.

10. A housing according to claim 1 wherein the at least one channel portion comprises an enclosed channel portion which runs to a joining surface between the two housing parts.

11. A housing according to claim 1 wherein said at least one channel portion comprises an open channel portion which runs along a joining surface of the respective housing part.

12. A housing according to claim 1 wherein the channel system has an inlet for receiving the free-flowing compaction material during injection.

13. A housing according to claim 1 wherein an outlet is provided for said channel system permitting at least one of removal of excess compaction material and ventilation of the channel system.

14. A housing according to claim 1 wherein the housing has ventilation apertures.

15. A housing according to claim 1 wherein a mold location device is provided which determines position so the first and second housing parts in their joined state have at most one degree or freedom of motion.

16. A housing according to claim 1 wherein the first and second housing parts comprise a thermoplastic setting plastic material.

17. A housing according to claim 1 wherein the channel system further comprises at least one chamber.

18. A system according to claim 1 wherein the chamber is formed by a material recess in each of the respective housing parts so that when the housing are joined the chamber is formed.

19. A system according to claim 17 wherein the chamber lies entirely within one of the housing parts.

20. A housing according to claim 1 wherein different parts of the channel system have different cross-sections.

21. A housing according to claim 1 wherein the housing comprises a turbocharger housing.

22. The housing according to claim 1 wherein an air intake pipe, an air outlet pipe, and a compressor duct are provided, the duct connecting the air intake pipe and the air outlet pipe, and wherein the second housing part forms at least one radial interior section of the compressor duct and the first housing part forms at least one radial exterior section of the compressor duct.

23. The housing according to claim 22 wherein the air intake pipe, air outlet pipe, and the radial exterior section of the compressor duct are manufactured as the first single-piece housing part.

24. A housing according to claim 22 wherein the radial interior section has at least one recess for receiving compaction material which is mateable with a corresponding recess in the other housing part to form a chamber.

25. A housing according to claim 24 wherein the chamber is independent of the channel system.

26. A housing according to claim 24 wherein the chamber is part of the channel system.

27. A housing according to claim 24 wherein a plurality of said material recesses for forming respective chambers are provided.

28. A housing according to claim 27 wherein the plurality of chambers have different cross-sections.

29. A housing of a flow compressor, comprising:
first and second housing parts;
a channel system;
each housing part having at least a portion of the channel system therein with the two housing parts joined together by the channel system; and
a solidified compaction material being provided in the channel system so that the channel system together with the compaction material bond the first and second housing parts to one another.

30. A method for manufacturing a housing of a radial flow compressor, comprising the steps of:

providing first and second housing parts, each housing part having at least a portion of at least one channel of a channel system to be formed when the two housing parts are joined together; and

holding the two housing parts together and injecting a free-flowing compaction material into the channel system so that the channel system together with the compaction material formed therein forms a firm bond of the first and second housing parts to one another when the compaction material solidifies.

31. A method of claim 30 including the step of providing the channel system with at least one portion which has a path which meanders between the first and second housing parts.